

engaging hole 54 can be lowered, so that the engagement of the connectors to each other can be released.

Referring to Figure 2, the half-body 8a has engaging arms 76 that have openings 76a on the side surfaces 74 of the half-body 8a. The half-body 8b has latching projections 78 in positions corresponding to the engaging arms 76. When both half-bodies 8a and 8b are assembled, the openings 76a in the engaging arms 76 and the latching projections 78 engage with each other, so that the half-bodies are anchored to each other. Grooves (not shown in the figures) are formed in the inside surfaces of the side surfaces 74 of the half-body 8a in a direction perpendicular to the direction of insertion. Tongue parts (not shown in the figures) corresponding to these grooves are formed on the half-body 8a. At the time of assembly, the grooves and tongue parts engage with each other, so that mutual positioning of the shell 4 and enclosure 8 is accomplished.

The female connector which engages with the male connector 1 to form the electrical connector assembly of the present invention will be described with reference to Figures 5 through 10. Figures 5, 6, 7, and 8 are respectively a plan view, front view, side view, and bottom view of the female connector. Figures 9 and 10 are respectively a plan view and a front view of the housing of the female connector shown in Figure 5.

The following description will refer to Figures 5 through 10. As is shown most clearly in Figures 9 and 10, the insulating housing (hereafter referred to simply as a "housing") 102 of the female connector 100 is molded from an insulating resin, and has a shape which is substantially that of a rectangular solid. A rectangular opening 122 whose length runs in the lateral direction is formed in the front surface 116 of the housing 102. An engaging recess 104 is formed into the interior of the housing 102 from the

opening 122. As is shown most clearly in Figures 6 and 10, two plates, i.e. upper and lower plates 148 and 149, which extend in the lateral direction are disposed in close proximity to each other in the approximate center of the engaging recess 104, and are caused to protrude from the rear wall 144 of the engaging recess 104 in the direction perpendicular to the plane of the page in Figures 6 and 10. The upper plate 148 is slightly longer than the lower plate 149. A plurality of contacts 140 are disposed at specified intervals on the respective plates 148 and 149 along the direction of length of the plates, so that the contacts 140 on each plate face the other plate. Two contacts each for power supply use are disposed on both end portions of the upper plate 148.

A metal shielding shell (hereafter referred to simply as a "shell") 106 which has a shape similar to that of the housing 102 and which is used for electromagnetic shielding is mounted on the outside of the housing 102. The shell 106 is formed by stamping and bending a single metal plate, and has a top wall 130 which covers the upper wall 112 and side walls 114 of the housing 102, side walls 108, and a face plate 120 which covers the front surface 116 of the housing 102. Ground connection to the ground conductors of the attachment board (not shown in the figures) is accomplished by means of tongue parts 110 which drop from the respective side walls 108 of the shell 106. Tongue parts 132 (described later) also project from shell 106.

Referring to Figure 5, latching arms 164 are formed in the top wall 130 of the shell 106 on the left and right sides near the rear end 162 of the shell 106. The latch arms 164 face forward and are inclined toward the housing 102 and inside openings 165. When the housing 102 is inserted into the shell 106 from the rear end 162 of the shell 106, these latching arms 164 act in conjunction with

projections 166 (Figure 9) on the upper wall 112 of the housing 102, so that the housing 102 is prevented from slipping out to the rear.

Blocks 182 which have a rectangular configuration 5 protrude from both sides of the rear part of the housing 102 as integral parts of the housing 102. Tab grooves 182a which accommodate rear tabs 184 (Figure 5) that protrude from the rear end 162 of the shell 106 are formed on the blocks 182. When the housing 102 is mounted in the shell 10 106, the rear tabs 184 enter the tab grooves 182a, so that movement of the housing 102 in the forward direction is prevented.

Tongue parts 178 formed by C-shaped slots 176 are disposed in pairs facing each other in the top wall 130 of the shell 106 near the latching arms 164. Projections 180, with a T-shaped cross section, are formed on the upper wall 112 of the housing 102 in positions corresponding to the tongue parts 178. Projections 180 have grooves 180a proved therein. The tongue parts 178 are anchored by being inserted into the grooves 180a of these projections 180 from both sides. As a result, the top wall 130 of the shell 106 is prevented from floating upward from the upper wall 112 of the housing 102. 15 20

Tongue parts 132, as best shown in Figures 6 and 8, are 25 formed by being cut and raised from a bent part 172 that is folded over the undersurface of the housing 102 from the lower part of the face plate 120. The respective tongue parts 132 are disposed in positions near the lower-side spring contact parts 126. These tongue parts 132 form a 30 grounding path that extends from the lower-side spring contact parts 126 to the board.

As is shown most clearly in Figure 8, cut-outs 173 are formed from the rear-end 172a of the bent part 172. These cut-outs 173 engage with grooves 177a (Figure 10) formed in 51451 US